UNIVERSITI TEKNOLOGI MARA


TECHNICAL REPORT


GENERATING ARABESQUE DESIGN OF MASJID
NABAWI SLIDING DOME BY A COMPUTER
SOFTWARE

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# ABSTRACT

Arabesque design is well known to be an epitome of Islamic art, and was developed as early as in the eighth century in middle East. Traditionally, arabesque design is drawn by hand where the eccentrical and aesthetical values of the design are highly regarded and appreciated. This research focus on how to generate an arabesque design by using mathematical software in order to gave a new way or perspective in producing an arabesque design. In this research the arabesque design of Masjid Nabawi sliding dome have been designed with the usage of Maple software. Mathematical transformations such as rotation, reflection and translation are used in order to complete the arabesque design.

# 1  INTRODUCTION

In this section, review of Islamic art and arabesque are given. A background of the research is presented. We have also highlighted the problem statements, objectives, scope and significance of the project.

## 1.1  Research Background

Islam is one of the greatest religions of the world. Islam emerges in South Arabia in the 7th century when Prophet Muhammad received revelation from Allah to restore the glory of Islam in this world. Islam taught covers all aspects in human life such as legislation, family institution, marriage, economy, muammalat and even art.

Art synonym with creativity and aesthetics. Hadith narrated by Sahih Muslim state, "Allah is beautiful and loves beauty." [Sahih Muslim]. Some of the arts is related with religion such as Islamic art and Christian art. In Islam, art is one of medium of delivering the messages of Islam. It is known as Islamic art.

Islamic art emerge together with the development of Islam in the middle east. Nowadays, the term Islamic did not bring a meaning of religion or relate with any worshiping of the art produced. According to Saoud (2004), other arts such as Byzantine art basically incorporate Christian themes into it. Islamic art consists of figurative art that reflected man and nature as image of divine. Religious beliefs of Islamic art have cultural values prohibiting the depiction of living creatures including humans as stated by Singh (2017). Muslims believe that depiction of human is idolatry. This term is known as aniconism. The most forbidden representation is the figural representation of Allah and depiction of Prophet Muhammad and Islamic prophets. Islamic art composed of abstract forms instead of natural objects. Prisse argued that there are three types of Islamic art that are floral, geometrical and calligraphic as quoted in Jiwani (2011).

Islamic art is not only restricted to religious architecture such as mosque but also includes at Palaces and Tombs. Islamic art applied on less importance buildings such as fountains,